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Himalayan vegetation.—Among the matters of botanical interest STEWART⁴⁵ has emphasized is the absence of all luxuriant tropical vegetation from this part of India, the indigenous flora being rather of the desert and scrub types. Perhaps the most interesting thing concerning this little known region is the similarity of the forests on the north side of the mountains to those of the eastern United States, as shown by the abundance of trees of such familiar genera as *Pinus*, *Picea*, *Abies*, *Taxus*, *Juglans*, *Betula*, *Ulmus*, *Prunus*, *Acer*, *Quercus*, *Populus*, and *Berberis*. Set in strong contrast are the most abundant genera upon the corresponding southern slopes. This aggregation includes *Acacia*, *Capparis*, *Tamarix*, *Zizyphus*, *Melia*, *Albizzia*, and *Olea*.—GEO. D. FULLER.

Mycorrhiza of Marattiaceae.—WEST⁴⁶ has made a careful study of the life history, host relations, and systematic position of a fungus long known to be present in the roots of the Marattiaceae. It is one of the Phycomycetes, and most nearly approaches *Phytophthora* in such characters as are available, but the sexual organs were not observed. WEST has established a new genus (*Stigeosporium*) to include it. No injury to the cells of infected roots by the parasite could be recognized, and the resting spores, with their oily contents, are also formed at the expense of the host. "The advantage of the association is almost entirely on the side of the fungus, the host plant thriving in spite of the presence of the endophyte."—J. M. C.

Cambium in monocotyledons.—Mrs. ARBER⁴⁷ has brought together the scattered observations of the occurrence of an ephemeral intrafascicular cambium in monocotyledons, and records also some new observations. It is clear that such a cambium occurs more widely among monocotyledons than has been generally supposed. To the previously recorded cases she adds the inflorescence axes of *Eremurus himalaicus* and *Nothoscordum fragrans*, and the young shoots of *Asparagus officinalis*. The widespread occurrence of this "vestigial, intrafascicular cambium" is a strong additional argument in favor of the derivation of monocotyledons from dicotyledons.—J. M. C.

Seedling anatomy of Ranales.—Miss BLACKBURN⁴⁸ has investigated the seedling anatomy of a large number of the Ranales, chief attention being given to the Ranunculaceae. The results of chief phylogenetic interest are the

⁴⁵ STEWART, RALPH R., Some observations on the flora of northwest Himalaya. *Torreya* 15:215-260. figs. 4. 1915.

⁴⁶ WEST CYRIL On *Stigeosporium Marattiacearum* and the mycorrhiza of the Marattiaceae. *Ann. Botany* 31:77-99. pl. 3. figs. 9. 1917.

⁴⁷ ARBER, AGNES, On the occurrence of intrafascicular cambium in monocotyledons. *Ann. Botany* 31:41-45. figs. 3. 1917.

⁴⁸ BLACKBURN, KATHLEEN B., On the vascular anatomy of the young epicotyl in some Ranalean forms. *Ann. Botany* 31:151-180. pl. 13. figs. 19. 1917.

general prevalence of the trilacunar trace in the seedlings, and the almost universal occurrence of a single ring of bundles connected at a very early age by cambium. This interfascicular cambium is usually absent in the adult stems of the herbaceous Ranunculaceae, but it is invariably present at some stage in the seedling. The evidence of the origin of herbs from woody plants is increasing.—J. M. C.

Germination of ascospores.—BRIERLY⁴⁹ has experimented with the germination of the ascospores of *Onygena equina*, a fungus occurring on decomposing horns and hoofs of cattle, sheep, etc. The results showed that "ripe" ascospores will germinate directly after a prolonged resting period, and that this period may be curtailed or eliminated by treating the spores with artificial gastric juice, but not by subjection to low temperatures. "The full-grown unripe ascospores and the chlamydospores will germinate immediately in the absence of digestive treatment."—J. M. C.

Respiration.—APPLEMAN⁵⁰ has investigated quantitatively the relation of oxidases and catalase to the process of respiration in potatoes. He found that there was no correlation between intensity of respiration and oxidase activity, but that catalase activity of the extracted juice of the potato shows a close correlation with the respiratory activity of the tuber. He considers, therefore, that the oxidases are not the controlling factor in respiratory intensity, at least in potato tubers, whatever rôle they may have in connection with biological oxidations.—CHARLES A. SHULL.

History of forest ecology.—In a rather extensive review of the literature of botany and of forestry investigations, BOERKER⁵¹ has attempted to trace the influence of both upon the development of the new phase of science known as forest ecology or silvics. Perhaps the most important part of the paper is that in which he traces the ecological principles which were stated by some of the earlier leaders in forestry, but which have received little attention from their fellow foresters. Of almost equal importance is the rather extensive bibliography.—GEO. D. FULLER.

Wandering tapetal nuclei.—PICKETT⁵² has described in detail the differentiation of the tapetum and its subsequent behavior in *Arisaema triphyllum*

⁴⁹ BRIERLY, WILLIAM B., Spore germination in *Onygena equina* Willd. Ann. Botany 31:127-132. 1917.

⁵⁰ APPLEMAN, CHARLES O., Relation of oxidases and catalase to respiration in plants. Amer. Jour. Botany 3:223-233. 1916.

⁵¹ BOERKER, R. H., A historical study of forest ecology; its development in the fields of botany and forestry. Forestry Quarterly 14:380-432. 1916.

⁵² PICKETT, F. L., The wandering tapetal nuclei of *Arisaema*. Amer. Jour. Bot. 3:461-469. pl. 20. figs. 8. 1916.